

Application Serial No.: 09/639,946
Reply to Office Action dated January 15, 2004

REMARKS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 19, 22-25, 32-35, 37-40, 58-68, and 70-90 are presently active in this case, Claims 19, 22, 32, 34, 61, 65, 68, 70, 76, 77, and 88 having been amended by way of the present Amendment. Claims 1-18, 20, 21, 26-31, 36, 41-57, and 69 have been canceled without prejudice or disclaimer.

Claims 83-85 were indicated as being allowed.

Claims 34, 35, 61, 65-67, 76, and 88 were indicated as being allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Firstly, the Applicants note that Claim 66 is in independent form, and therefore the Applicants submit that Claim 66 and Claim 67, which depends from Claim 66, are in condition for allowance. Furthermore, Claims 34, 61, 65, 76, and 88 have been written in independent form including all of the limitations of their respective base claims, and therefore Claims 34, 35 (which depends from Claim 34), 61, 65, 76, and 88 are in condition for allowance.

In the outstanding Official Action, Claims 19, 23, 24, 32, 38, 39, 58, 64, 68, 71, 72, 77-82, and 90 were rejected under 35 U.S.C. 102(b) as being anticipated by Elmes (U.S. Patent No. 3,576,200). Claims 21, 22, 25, 33, 37, 40, 59, 60, 62, 63, 69, 70, 73-75, 86, 87, and 89 were rejected under 35 U.S.C. 103(a) as being unpatentable over Elmes. For the reasons discussed below, the Applicants request the withdrawal of the art rejections.

Claim 19 has been amended to incorporate the subject matter of Claim 21. Claim 19 recites a tip comprising a first edge corner having a corner angle of less than 90°, an adjacent second edge corner having a corner angle of less than 90°, and a third edge corner having a

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corner angle of less than 90°, wherein the tip is formed of a substantially quadrilateral-shaped plate, and wherein the tip includes at least one edge corner having a corner angle of greater than 90°. Claim 68 has been amended to incorporate the subject matter of Claim 69. Claim 68 recites a tip comprising a substantially planar plate including a first edge corner having a corner angle of less than 90°, an adjacent second edge corner having a corner angle of less than 90°, and a third edge corner having a corner angle of less than 90°, wherein the plate includes at least one edge corner having a corner angle of greater than 90°. The Applicants submit that the Elmes reference does not disclose or suggest a tip having such features.

The Official Action cites the Elmes reference for the teaching of a trailing lower tooth (B) that has two adjacent corners that are at an angle of less than 90°. The Official Action acknowledges that the Elmes reference does not teach a third corner that is at an angle of less than 90°, however, the Official Action does not cite a secondary reference that teaches a third corner that is at an angle of less than 90°, but rather states that such a configuration would have been obvious in view of the Elmes reference. The Applicants respectfully traverse this conclusion.

The Elmes reference discloses a rotatable circular saw having teeth that are symmetrical such that they form essentially a “keystone shape.” The two adjacent corners (28) of the tooth (B) that are at an angle of less than 90° are provided opposite to two adjacent corners that are at an angle of greater than 90°. It would be contrary to the teachings of the Elmes reference to provide a third corner on the tooth (B) that is at an angle of less than 90°, since this would provide a slanted seating surface opposite to surface (24). Such a slanted seating surface would change the shape of the tooth (B) away from the keystone shape disclosed in the Elmes reference, and would rotate the orientation of the tooth (B) such that the corners (28) would not align properly with the space left open by beveled surfaces

(16) on the leading tooth (A) thereby destroying the operation of the invention. No motivation is present to make such a change, absent the teachings of the present invention.

Since no motivation is present to modify the tooth (B) of the Elmes reference in the manner described in the Official Action, and, in fact, since such a change would be contrary to the teachings of the Elmes reference, then the Applicants respectfully submit that the inventions recited in Claims 19 and 68 are not obvious in view of the Elmes reference. The configuration of the inventions recited in Claims 19 and 68 are not mere obvious changes in shape or form, but rather the particular configurations claimed provide significant structural advantages as described throughout the specification that are not taught in the prior art.

Accordingly, the Applicants respectfully request the withdrawal of the art rejections of Claims 19 and 68. Claims 23-25, 59, and 60 are believed to be in condition for allowance for the reasons discussed above for Claim 19, from which they depend. Claims 71-75 are believed to be in condition for allowance for the reasons discussed above for Claim 68, from which they depend.

Claim 22 has been rewritten in independent form. Claim 22 recites a tip comprising a first edge corner having a corner angle of less than 90°, and an adjacent second edge corner having a corner angle of less than 90°, wherein the tip is formed of a substantially quadrilateral-shaped plate, and wherein the tip includes at least one edge corner having a corner angle of greater than 90°, wherein a cutting edge extending between the first edge corner and the second edge corner is not parallel to an opposite cutting edge. Claim 70 has been rewritten in independent form. Claim 70 recites a tip comprising a substantially planar plate including a first edge corner having a corner angle of less than 90°, and an adjacent second edge corner having a corner angle of less than 90°, wherein the plate includes at least one edge corner having a corner angle of greater than 90°, wherein a cutting edge extending

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between the first edge corner and the second edge corner is not parallel to an opposite cutting edge. The Applicants submit that the Elmes reference does not disclose or suggest a tip having such features.

As discussed above, the Official Action cites the Elmes reference for the teaching of a trailing lower tooth (B) that has two adjacent corners that are at an angle of less than 90°. The Official Action acknowledges that the Elmes reference does not teach a cutting edge extending between the first edge corner and the second edge corner that is not parallel to an opposite cutting edge, however, the Official Action does not cite a secondary reference that teaches such non-parallel opposite cutting edges, but rather states that such a configuration would have been obvious in view of the Elmes reference. The Applicants respectfully traverse this conclusion.

As noted above, the Elmes reference discloses a rotatable circular saw having teeth that are symmetrical such that they form essentially a “keystone shape.” The tooth (B) includes two adjacent corners (28) that have an outer face (24) extending therebetween. The outer face (24) is opposite to a parallel face that acts as a seat for the tooth (B). It would be contrary to the teachings of the Elmes reference to provide a face opposite to face (24) that is not parallel to face (24), since this would provide a slanted seating surface opposite to surface (24). Such a slanted seating surface would change the shape of the tooth (B) away from the keystone shape disclosed in the Elmes reference, and would rotate the orientation of the tooth (B) such that the corners (28) would not align properly with the space left open by beveled surfaces (16) on the leading tooth (A) thereby destroying the operation of the invention. No motivation is present to make such a change, absent the teachings of the present invention.

Since no motivation is present to modify the tooth (B) of the Elmes reference in the manner described in the Official Action, and, in fact, since such a change would be contrary

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to the teachings of the Elmes reference, then the Applicants respectfully submit that the inventions recited in Claims 22 and 70 are not obvious in view of the Elmes reference. The configuration of the inventions recited in Claims 22 and 70 are not mere obvious changes in shape or form, but rather the particular configurations claimed provide significant structural advantages as described throughout the specification that are not taught in the prior art.

Accordingly, the Applicants respectfully request the withdrawal of the art rejections of Claims 22 and 70.

Claim 32 of the present application recites a cutting tool comprising, among other features, an end-milling tool body having a distal end, and a plurality of tips mounted to the distal end of the tool body. Claim 77 recites a cutting tool comprising, among other features an end-milling tool body having a distal end, and a first tip mounted to the distal end of the tool body. The Applicants submit that the Elmes reference does not disclose or suggest a cutting tool having such features.

The Elmes reference describes a circular cutter for a rotatable circular saw. The Official Action cites an outer periphery of the circular saw of the Elmes reference for the teaching of a distal end of the tool body, as recited in Claims 32 and 77. Claims 32 and 77 have been amended to clarify that the tool body being claimed therein is an end-milling tool body having a distal end. Such a tool body is not disclosed or suggested by the Elmes reference. Additionally, the Applicants submit that the outer periphery of the circular saw is not a "distal end," as recited in Claims 32 and 77. Clearly, the Elmes reference does not disclose an end-milling tool, but rather a circular saw. Thus, the Elmes reference does not anticipate Claims 32 and 77 of the present application.

The configurations of the teeth (A and B) described in the Elmes reference are specifically designed for a use with a circular saw, as is evident from a review of Figures 4

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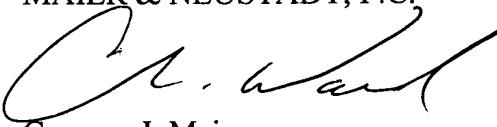
and 5, which illustrate design concerns of the teeth based upon the operation of the teeth on a circular saw. No motivation is present to modify the disc-like body of the Elmes reference to arrive at the presently claimed invention, absent the teachings of the present invention.

Accordingly, the Applicants respectfully request the withdrawal of the art rejections of Claims 32 and 77. Claims 33, 37-40, 58, 62-64, and 90 are believed to be in condition for allowance for the reasons discussed above for Claim 32, from which they depend. Claims 78-82, 86, 87, and 89 are believed to be in condition for allowance for the reasons discussed above for Claim 77, from which they depend.

Consequently, in view of the above discussion, it is respectfully submitted that the present application is in condition for formal allowance and an early and favorable reconsideration of this application is therefore requested.

Respectfully Submitted,

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